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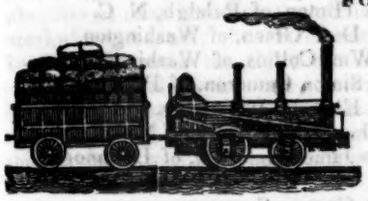
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY AND MINES.



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Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

PRINCIPAL CONTENTS.

Railway Profits.....433
The Iron Trade.....433
Michigan Southern Railroad.....433
Railroads at the South—the Connecting Link..434
Railroad Extension and Railroad Mail Transportation.....434
Electricity and Electric Telegraph.....434
Wilmington and Manchester Railroad.....437
Richmond, Fredericksburg and Potomac Railroad.....438
Annual Reports of the New York Railroads...439
Institution of Mechanical Engineers at Birmingham.....440
Aitken's Improvements on the Steam Engine...441

AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, July 10, 1847.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

ATLANTIC AND ST. LAWRENCE RAILroad.—Notice to Contractors.—Proposals in writing will be received at the office of the Atlantic and St. Lawrence Railroad Company, in the city of Portland, until Tuesday, the tenth day of August next, inclusive, at sunset, for the grading, masonry, and bridging of that portion of their road extending from the termination of the second division near the hotel road in Danville, to a place in the vicinity of Norway and Paris cape, a distance of about 20 miles.

Maps, profiles, and specifications will be ready for examination on and after the second day of August next, at the Engineer's office in Portland, where all necessary information will be given.

The company will require, as one of the stipulations of the contract, that the heavier work on any section, shall be first attended to, so that the heavier and lighter work may be completed at nearly the same time.

Persons unknown to the officers of the company must accompany their bids with satisfactory evidence of their ability to execute the work. In all cases good and sufficient bonds with two or more sureties will be required for the faithful performance and fulfilment of the contract.

WM. P. PREBLE, *President.*

Portland, June 30, 1847. 3t28

Railway Profits.

The Mining Journal, of 12th June, says that "the principal railway companies in the United Kingdom having lines completed and at work, are 28 in number; the length of their lines in operation is 2418¼ miles, and the total cost to the dates of the last balance sheets is £77,162,952. The dividends now paid upon the different items of which this capital is made up, vary from two to ten per cent. in the following proportions:

On £1,079,867	the dividend is	£2	0	per cent.
On 853,918	" "	2	8	"
On 520,341	" "	2	12	"
On 142,900	" "	3	0	"
On 4,741,249	" "	3	10	"
On 1,174,969	" "	4	0	"
On 5,705,057	" "	5	0	"
On 1,085,498	" "	5	10	"
On 2,005,127	" "	6	0	"
On 26,276,102	" "	7	0	"
On 8,426,000	" "	8	0	"
On 2,062,053	" "	9	0	"
On 23,059,571	" "	10	0	"
£77,162,952				

The total dividend upon the various items above enumerated amounts to £5,746,068 per annum, being an average of 7¼ per cent., within a fraction, on the entire sum invested by the shareholders in these undertakings. It should be borne in mind, too, that the resources of many of these companies are as yet but imperfectly developed. In some cases the lines are but partially opened, and in others, such as the Great Western,' though the main lines are complete, many of the tributaries essential to the full development of the system of which they form part, and from which much increased wealth and prosperity must necessarily flow, are as yet incomplete, and have brought nothing to the general fund."

The Iron Trade.

We have our foreign files by the Caledonia up to 12th June, inclusive, from which we learn that the iron trade is not very brisk. Rails are quoted on the 4th at £9, average, and on the 11th at £9 a £9 5s. The monthly report of June 3d says that English bar iron has been in little demand during the month, and prices have fallen 5s. per ton. Within the last few days a better demand has taken place, and makers now refuse to sell under £8 10s. at the works in Wales. The rail market has been exceedingly dull, principally owing the difficulty the various companies experience in getting in their cal's. Scotch pig iron declined to 63s. 6d. mixed numbers, and 64s. to 65s. No. 1; but within the last few days rather higher prices have been asked. Swedish iron and steel are dull of sale.

The remarks in the Mining Journal upon the subject of pig iron are that the fine weather, and consequent improvement in prospects, have had the effect of stiffening the price of pig iron this week. There was considerable demand on Monday and Tuesday, and sales were effected to some extent at 64s. and 64s. 6d. cash. To-day, although there is less inquiry, there is no greater disposition to sell, and in the absence of transactions, quote the price nominally at 65s. The iron masters have resolved upon making a reduction in the workmen's wages, to the extent of 25 per cent., which, apparently, will be submitted to.

In the same paper, of 12th June, we find it stated that Welsh and Staffordshire are without alteration, and the demand is very moderate for export. In Scotch pigs very little doing, but from there being no parcels pressing on the market the price is a little firmer.

Michigan Southern Railroad.

"The Michigan Southern railroad company held their annual meeting at Monroe on the 14th ultimo, and elected T. B. Van Brunt, president, and S. J. Holly, vice president. This company have had the road in their possession for about five months, during which period they have increased the number of freight cars from 48 to 85—each sufficient to carry two tons burden, and passage cars from three to four. They have contracted for two new engines to be furnished by the 1st of August, and 25 double freight cars—equal to 50 of the ordinary size.

"Up to the 1st of June, the company had received cash $36,527 74, which with the State liabilities on hand, will enable them to meet the payment due the State. The expenses during the same time, for paying officers and hands, for cars, repairing road, building bridge, etc., amounted to about $14,000.—During the first ten days of last month, the receipts upon the road were $6,244 19, and the freight on the

road awaiting transportation, was estimated as sufficient to keep the cars in constant operation until after harvest."

Under good management this road will soon give large returns to its proprietors, and important advantages to the people along its line.

Railroads at the South--the Connecting Link.

We have often had occasion to refer to the great inconvenience to travel and business arising from the *break* in the line of railroads between North and South Carolina. With the exception of this deficiency—a comparatively short line—we have railroad accommodation from Portland in Maine, and from Buffalo in New York, very nearly to the *Alabama* line; and therefore this break is exceedingly annoying to those who have become accustomed to the luxury of railroad travelling. Just in proportion, then, to the inconvenience of the interruption, will be the pleasure, to business men, to learn that the people of North Carolina, at least—and we believe those of South Carolina also—are determined to remove the cause of so many complaints, as we learn from the last number of the Wilmington Chronicle. The editor of that paper says:

"Our readers will perceive, by the proceedings of the stockholders at *Marion*, that the work of the Connecting Link goes 'bravely on.'

"We are rejoiced to see our friends, thus far, verify their promises, and show to the world that it is not by words alone, but by deeds, that their regard for the great interest of internal improvement are to be demonstrated.

"The time is come when every one who intends to participate in the honor of accomplishing this great and useful work, should come up to the line, and 'tell steps' with their compeers. It is not now a *question* as to whether the road shall be built *or not*—this problem is already solved. But the questions are, *who* will help? *When* shall it commence?

"The answers to the first question we suppose are already in the mind of the reader. *Who* will help? Why everybody that has real estate, or capital to invest. Everybody that has to do something for a living, whether in mercantile, mechanical or farming pursuits. Everybody that has any sort of interest in this section, or the least regard for the prosperity of the people here. Everybody that loves the glory of the good old North State.

"As to the matter of ability—all can help some. When one cannot afford to take even a single share, perhaps two or three can do it. It will be a good investment for even the man who relies on manual labor for support. The completion of the road will more than remunerate him, in a short space, through the facilities and the increase of price of labor.

"As to *when* it shall be built—the answer is also ready. Now—at once—let the work begin at 'both ends,' as recommended in the resolution offered by General McRae and adopted at the meeting at *Marion*. This is a most excellent plan, and will create a spirit of emulation among the citizens of the 'extremes.' There will be an honorable and fraternal striving for the mastery, as to who shall first proximate the centre.

"When we say that we rejoice in the selection of Gov. E. B. Dudley for president of the new road, we do not utter a commonplace sentiment or express a conventional compliment. For ourselves, and we dare venture the same for all the company as well as the whole community interested, it is the pleasure of the heart and the conviction of the mind, that hails the appointment as the harbinger of good things ofor ur new road.

"We learn that during the meeting at Marion, several animated and interesting discussions arose, which were participated in by Gov. Dudley, Messrs. McRae, Nutt, Fulton and Wright, of North Carolina, and Sims, Harllee, J. A. Dargen, and others, of South Carolina; the general tenor of whose remarks proved that the zeal of the people of their respective sections, was unabated, and the determination to build the road at all events, stronger than ever."

We publish at length the proceedings of the convention at Marion in another page.

Railroad Extension and Railroad Mail Transportation.

We find a brief report in the National Intelligencer of 3d inst., of the proceedings of a meeting held in Washington, in February last, for the purpose of recommending an application to Congress for the appropriation of a portion of the public lands to aid in the construction of railroads, and thus facilitate the transportation of the mail. This is a measure in which we *heartily* concur—and we hope efficient measures may be adopted to carry it into operation. The editor of the Intelligencer says:

"Our attention has been invited to the following account of the proceedings of a meeting, which, it appears, was held in this city in February last, looking to the calling of a general railroad convention, should it be deemed expedient, at some time before the next session of Congress, for the purposes stated in the resolutions; to make known which we give the proceedings a place in our columns."

At a meeting of persons interested in the extension of railroads, held in the city of Washington on the 26th day of February, 1847, the Hon. Robert Smith, of Illinois, was called to the chair, and Gen. Duff Green appointed secretary, when the following resolutions were moved and adopted:

Resolved, That in the opinion of this meeting application should be made to Congress, at its next session, to enact a law granting aid by a donation of public lands for the construction of railroads passing through or near such public lands, and on condition that facilities for carrying the mails of the United States on such routes be given.

Resolved, As the opinion of this meeting, that the existing laws relating to postoffice contracts with railroad companies may be so modified as greatly to benefit railroad companies, and at the same time greatly reduce the cost of transporting the mails.

Resolved, As the opinion of this meeting, that a committee should be appointed, whose duty it shall be to obtain, as far as practicable, full and detailed statements of the condition of the several railroad companies now authorized by law, and of the plans, estimates and prospective utility of such railroads as it is proposed to establish hereafter, and to prepare a digest of the information thus obtained, to be submitted to a convention of persons interested in such railroads or to the next Congress.

Resolved, That it shall be the duty of said committee, if, after consulting with the postoffice department, and persons throughout the several States, they shall deem it expedient, to call a meeting to be held in this city, to be composed of delegates sent by the several railroad companies and persons interested in the extension of railroads, at or before the meeting of the next Congress, for the purpose of preparing and submitting to Congress a memorial, and such statistical and practical information as will enable Congress to pass proper laws on the subject.

When a committee consisting of the following named persons was appointed.

Hon. Robert Smith, of Illinois.
Gen. James Gadsden, of Charleston, S. C.
J. H. Bodley, Esq., of Vicksburg, Miss.
C. L. Hinton, of Raleigh, N. C.
Gen. Duff Green, of Washington.
Dr. Wm. Collins, of Washington.
Gen. Simon Cameron, of Pennsylvania.
Hon. Elish B. Whittlesey, of Ohio.
Col. James E. Murray, of New York.
Judge James Harwood, of Baltimore.

Robert Smith, Chairman.
Duff Green, Secretary.

Electricity and Electric Telegraph.

We copy the following interesting article "*on the induction of Atmospheric Electricity on the wires of the Electrical Telegraph*," by Professor Henry, from the January number of "the American Journal of Science and Arts." The name of the writer, and of the Journal in which it was first published, will ensure it an attentive perusal by all who take an interest in the subject of which it treats, and no man can read it without instruction.

The writer says, "The action of the electricity of the atmosphere on the wires of the electrical telegraph, is at the present time a subject of much importance, both on account of its practical bearing, and the number of purely scientific questions which it involves. I have accordingly given due attention to the letter referred to me, and have succeeded in collecting a number of facts in reference to the action in question. Some of these are from the observations of different persons along the principal lines, and others from my own investigations during a thunder-storm on the 19th of June, when I was so fortunate as to be present in the office of the telegraph in Philadelphia, while a series of very interesting electrical phenomena was exhibited. In connexion with the facts derived from these sources, I must ask the indulgence of the society in frequently referring, in the course of this communication, to the results of my previons investigations in dynamic electricity, accounts of which are to be found in the proceedings and transactions of this Institution.

From all the information on the subject of the action of the electricity of the atmosphere on the wires of the telegraph, it is evident that effects are produced in several different ways.

I. The wires of the telegraph are liable to be struck by a direct discharge of lightning from the clouds, and several cases of this kind have been noticed during the present season. About the 20th of May, the lightning struck the elevated part of the wire, which is supported on a high mast at the place where the telegraph crosses the Hackensack river. The fluid passed along the wire each way, from the point which received the discharge, for several miles, striking off at irregular intervals down the supporting poles. At each place where the discharge

to a pole took place, a number of sharp explosions were heard in succession, resembling the rapid reports of several rifles. During another storm the wire was struck in two places in Pennsylvania, on the route between Philadelphia and New York; at one of these places twelve poles were struck, and at the other eight. In the latter case the remarkable fact was observed, that every other pole escaped the discharge; and the same phenomena was observed, though in a less marked degree, near the Hackensack river. In some instances the lightning has been seen coursing along the wire in a stream of light; and in another case it is described as exploding from the wire at certain points, though there were no bodies in the vicinity to attract it from the conductor.

In discussing these, and other facts to be mentioned hereafter, we shall, for convenience, adopt the principles and language of the theory which refers the phenomena of electricity to the action of a fluid, of which the particles repel each other, and are attracted by the particles of other matter. Although it cannot be affirmed that this theory is an actual representation of the cause of the phenomena as they are produced in nature, yet it may be asserted that it is, in the present state of science, an accurate mode of expressing the laws of electrical action, so far as they have been made out; and that though there are a number of phenomena which have not as yet been referred to this theory, there are none which are proved to be directly at variance with it.

That the wires of the telegraph should be frequently struck by a direct discharge of lightning, is not surprising, when we consider the great length of the conductor, and, consequently, the many points along the surface of the earth through which it must pass, peculiarly liable to receive the discharge from the heavens. Also, from the great length of the conductor, the more readily must the repulsive action of the free electricity of the cloud drive the natural electricity of the conductor to the farther end of the line, thus rendering more intense the negative condition of the nearer part of the wire, and, consequently, increasing the attraction of the metal for the free electricity of the cloud. It is not, however, probable, that the attraction, whatever may be its intensity, of so small a quantity of matter as that of the wire of the telegraph, can of itself produce an electrical discharge from the heavens: although if the discharge were started by some other cause, such as the attraction of a large mass of conducting matter in the vicinity, the attraction of the wire might be sufficient to change the direction of the descending bolt, and draw it in part or whole, to itself. It should also be recollected, that on account of the perfect conduction, a discharge on any part of the wire must affect every other part of the connected line, although it may be hundreds of miles in length.

That the wire should give off a discharge to a number of poles in succession, is a fact I should have expected, from my previous researches on the literal discharge of a conductor transmitting a current of free electricity. In a paper on this subject, presented to the British Association in 1837, I showed that when electricity strikes a conductor explosively, it tends to give off sparks to all bodies in the vicinity, however intimately the conductor may be connected with the earth. In an experiment in which sparks from a small machine were thrown on the upper part of a lightning rod, erected in accordance with the formula given by the French Institute, corresponding sparks could be drawn from every part of the road, even from that near the ground. In a communication since made to this society, I have succeeded in referring this phenomenon to the fact, that during the transmission of a quantity of electricity along a rod, the surface of the conductor is charged in succession, as it were, by a wave of the fluid, which, when it arrives opposite a given point, tends to give off a spark to a neighboring body, for the same reason that the charged conductor of the machine gives off a spark under the same circumstances.

It might at first be supposed that the redundant electricity of the conductor would exhaust itself in giving off the first spark, and that a second discharge could not take place; but it should be observed, that the wave of free electricity, in its passage, is constantly attracted to the wire by the portion of the uncharged conductor which immediately precedes its position at any time; and hence but a part of the whole redundant electricity is given off at one place; the velocity of transmission of the wave as it passes the neighboring body, and its attraction for the wire, preventing a full discharge at any one place. The intensity of the successive explosions is explained by referring to the fact, that the discharge from the clouds does not generally consist of a single wave of electricity, but of a number of discharges along the same path in rapid succession, or of a continuous discharge which has an appreciable duration; and hence the wire of the telegraph is capable of transmitting an immense quantity of the fluid thus distributed over a great length of the conductor.

The remarkable facts of the explosions of the electricity into the air, and of the poles being struck in interrupted succession, find a plausible explanation in another electrical principle which I have established, namely, in all cases of the disturbance of the equilibrium of the electrical plenum, which we must suppose to exist throughout all terrestrial space, the state of rest is attained by a series of diminishing oscillations. Thus, in the discharge of a Leyden jar, I have shown that the phenomena exhibited cannot be explained by merely supposing the transfer of a quantity of fluid from the inner to the outer side of the jar; but in addition to this we are obliged to admit the existence of several waves, backwards and forwards, until the equilibrium is attained. In the case of the discharge from the cloud, a wave of the natural electricity of the metal is repelled each way from the point on which the discharge falls, to either end of the wire, is then reflected, and in its reverse passage meets in succession the several waves which make up the discharge from the cloud. These waves will therefore interfere at certain points along the wire, producing, for a moment, waves of double magnitude, and will thus enhance the tendency of the fluid at these points to fly from the conductor. I do not say that the effects observed were actually produced in this way; I merely wish to convey the idea that known principles of electrical action might, under certain circumstances, lead us to anticipate such results.

2. The state of the wire may be disturbed by the conduction of a current of electricity from one portion of space to another, without the presence of a thunder-cloud; and this will happen in case of a long line, when the electrical condition of the atmosphere which surrounds the wire at one place is different from that at another. Now it is well known that a mere difference in elevation is attended with a change in the electrical state of the atmosphere. A conductor, elevated by means of a kite, gives sparks of positive electricity in a perfectly clear day; hence, if the line of the telegraph passes over an elevated mountain ridge, there will be continually during clear weather, a current from the more elevated to the lower points of the conductor.

A current may also be produced in a long level line, by the precipitation of vapor in the form of fog at one end, while the air remains clear at the other; or by the existence of a storm of rain or snow at any point along the line, while the other parts of the wire are not subjected to the same influence.

Currents of sufficient power to set in motion the marking machine of the telegraph have been observed, which must have been produced by some of these causes. In one case the machine spontaneously began to operate without the aid of the battery, while a snow storm was falling at one end of the line, and clear weather existed at the other. On another occasion a continued stream of electricity was observed to pass between two points at a break in the wire, presenting the appearance of a gas-light almost extinguished. A constant effect of this kind indicates a constant accession of electricity at one part of the wire, and a constant discharge at the other.

3. The natural electricity of the wire of the telegraph is liable to be disturbed by the ordinary electrical induction of a distant cloud. Suppose a thunder-cloud, driven by the wind in such a direction as to cross one end of the line of the telegraph at the elevation, say of a mile; during the whole time of the approach of the cloud to the point of its path directly above the wire, the repulsion of the redundant electricity with which it is charged would constantly drive more and more of the natural electricity of the wire to the farther end of the line, and would thus give rise to a current. When the cloud arrived at the point nearest to the wire, the current would cease for a moment; and as the repulsion gradually diminished by the receding of the cloud, the natural electricity of the wire would gradually return to its normal state, giving rise to a current in an opposite direction. If the

cloud were driven by the wind parallel to the line of the telegraph, a current would be produced towards each end of the wire, and these would constantly vary in intensity with the different positions of the cloud. Although currents produced in this way may be too feeble to set in motion the marking apparatus, yet they may have sufficient power to influence the action of the current of the battery so as to interfere with the perfect operation of the machine.

4. Powerful electrical currents are produced in the wires of the telegraph by every flash of lightning which takes place within many miles of the line, by the action of dynamic induction; which differs from the action last described, in being the result of the influence of electricity *in motion* on the natural electricity of the conductor. The effect of this induction, which is the most fruitful source of disturbance, will be best illustrated by an account of some experiments of my own, presented to the society in 1843. A copper wire was suspended by silk strings around the ceiling of an upper room, so as to form a parallelogram of about sixty feet by thirty on the sides; and in the cellar of the same building, immediately below, another parallelogram of the same dimensions was placed. When a spark from an electrical machine was transmitted through the upper parallelogram, an induced current was developed in the lower one, sufficiently powerful to magnetize needles, although two floors intervened, and the conductors were separated to the distance of thirty feet. In this experiment no electricity passed through the floors from one conductor to the other; the effect was entirely due to the repulsive action of the electricity in motion in the upper wire on the natural electricity of the lower. In another experiment, two wires about 400 feet long, were stretched parallel to each other between two buildings; a spark of electricity sent through one produced a current in the other, though the two were separated to the distance of 300 feet; and from all the experiments, it was concluded that the distance might be indefinitely increased, provided the wires were lengthened in a corresponding ratio.

That the same effect is produced by the repulsive action of the electrical discharge in the heavens, is shown by the following modification of the foregoing arrangement. One of the wires was removed, and the other so lengthened at one end, as to pass into my study, and thence through a cellar window into an adjacent well. With every flash of lightning which took place in the heavens, within at least a circle of twenty miles around Princeton, needles were magnetized in the study by the induced current developed in the wire. The same effect was produced by soldering a wire to the metallic roof of the house, and passing it down into the well; at every flash of lightning a series of currents in alternate directions was produced in the wire.

I was also led, from these results, to infer that induced currents must traverse the line of a railroad, and this I found to be the case. Sparks were seen at the breaks in the continuity of the rail, with every flash of a distant thunder-cloud.

Similar effects, but in a greater degree, must be produced on the wire of the telegraph, by every discharge in the heavens; and the phenomena which I witnessed on the 19th of June in the telegraph office in Philadelphia, were, I am sure, of this kind. In the midst of the hurry of the transmission of the congressional intelligence from Washington to Philadelphia, and thence to New York, the apparatus began to work irregularly. The operator at each end of the line announced at the same time a storm at Washington, and another at Jersey City. The portion of the circuit of the telegraph which entered the building, and was connected with one pole of the galvanic battery, happened to pass within the distance of less than an inch of the wire which served to form the connexion of the other pole with the earth. Across this space, at an interval of every few minutes, a series of sparks in rapid succession was observed to pass; and when one of the storms arrived so near Philadelphia that the lightning could be seen, each series of sparks was found to be simultaneous with a flash in the heavens. Now we cannot suppose, for a moment, that the wire was actually struck at the time each flash took place; and indeed it was observed that the sparks were produced when the cloud and flash were at the distance of several miles to the east of the line of the wire. The inevitable conclusion is, that all the exhibition of electrical phenomena witnessed during the afternoon, was purely the effect of induction, or the mere disturbance of the natural electricity of the wire at a distance, without any transfer of the fluid from the cloud to the apparatus.

The discharge between the two portions of the wire continued for more than an hour, when the effect became so powerful, that the superintendent, alarmed for the safety of the building, connected the long wire with the city gas pipes, and thus transmitted the current silently to the ground. I was surprised at the quantity and intensity of the current; it is well known, that to affect a common galvanometer with ordinary electricity, requires the discharge of a large battery; but such was the quantity of the induced current exhibited on this occasion, that the needle of an ordinary vertical galvanometer, with a short wire, and apparently of little sensibility, was moved several degrees.

The pungency of the spark was also, as might have been expected, very great. When a small break was made in the circuit, and the parts joined by the fore-finger and thumb, the discharge transmitted through the hand affected the whole arm up to the shoulder. I was informed by the superintendent, that on another occasion a spark passed over the surface of the spool of wire, surrounding the legs of the horse-shoe magnet at right angles to the spires; and such was its intensity and quantity, that all the wires across which it passed were melted at points in the same straight line as if they had been cut in two by a sharp knife.

The effects of the powerful discharges from the clouds may be prevented in a great degree, by erecting at intervals along the line, and aside of the supporting poles, a metallic wire, connected with the earth at the lower end, and terminating above at the distance of about half an inch from the wire of the telegraph. By this arrangement the insulation of the conductor will not be interfered with, while the greater portion of the charge will be drawn off. I think this precaution of great importance at places where the line crosses a river, and is supported on high poles. Also in the vicinity of the office of the telegraph, where a discharge, falling on the wire near the station, might send a current into the house of sufficient quantity to produce serious accidents. The fate of Prof. Richman, of St. Petersburg, should be recollected, who was killed by a flash from a small wire, which entered his house from an elevated pole, while he was experimenting on atmospheric electricity.

The danger, however, which has been apprehended from the electricity leaving the wire and discharging itself into a person on the road, is, I think, very small; electricity of sufficient intensity to strike a person at eight or ten feet from the wire, would, in preference, be conducted down the nearest pole. It will, however, in all cases, be most prudent to keep at a proper distance from the wire during the existence of a thunder-storm in the neighborhood.

It may be mentioned as an interesting fact, derived from two independent sources of information, that large numbers of small birds have been seen suspended by the claws from the wire of the telegraph. They had, in all probability, been instantaneously killed, either by a direct discharge, or an induced current from a distant cloud, while they were resting on the wire.

Though accidents to the operators, from the direct discharge, may be prevented by the method before mentioned, yet the effect on the machine cannot be entirely obviated; the residual current which escapes the discharge along the perpendicular wires, must neutralize, for a moment, the current of the battery, and produce irregularity of action in the apparatus.

The direct discharge from the cloud on the wire is, comparatively, not a frequent occurrence, while the dynamic inductive influence must be a source of constant disturbance during the season of thunder storms; and no other method presents itself to my mind at this time for obviating the effect, but that of increasing the size of the battery, and diminishing the sensibility of the magnet, so that, at least, the smaller induced currents may not be felt by the machine. It must be recollected, that the inductive influence takes place at a distance through all bodies, conductors and non conductors; and hence no coating that can be put upon the wire will prevent the formation of induced currents.

I think it not improbable, since the earth has been made to act the part of the return conductor, that some means will be discovered for insulating the single wire beneath the

surface of the earth; the difficulty in effecting this is by no means as great as that of insulating two wires, and preventing the current striking across from one to the other. A wire, buried in the earth, would be protected, in most cases, from the effect of a direct discharge; but the inductive influence would still be exerted, though perhaps in a less degree.

The wires of the telegraph are too small and too few in number to affect, as some have supposed, the electrical condition of the atmosphere, by equalizing the quantity of the fluid in different places, and thus producing a less changeable state of the weather. The feeble currents of electricity which must be constantly passing along the wires of a long line, may, however, with proper study, be the means of discovering many interesting facts relative to the electrical state of the air over different regions.

Wilmington and Manchester Railroad,
Or the Connecting Link between the Northern and the Southern Railroads.

We hope there may be no relaxation in the efforts of those immediately on the line of this work—and hope also that capitalists and railroad companies at the north will give the subject not only their consideration, but also subscribe liberally to the stock.

At a general meeting of the stockholders of the Wilmington and Manchester railroad company, held at Marion C. H. South Carolina, on Wednesday, June 23d, 1847:

On motion of Gov. E. B. Dudley, Wm. Haynsworth, Esq., of Sumter District, was called to the chair.

Wm. H. Wingate, of Darlington, and R. B. Boylston, of Marion were appointed secretaries.

On motion of Gen. W. W. Harllee,

Resolved, That the commissioners appointed to receive subscriptions to the capital stock of the company do report the amounts subscribed for, in their respective districts to the secretaries. Whereupon the following were reported:

Wilmington, - -	$156,200
Columbus county, N. C.,	17,000
Marion district, S. C.,	46,600
Darlington district, S. C.,	42,600
Sumter district, S. C.,	57,300
	$319,700

On motion of W. A. Wright, Esq.,

Resolved, That the report of the secretaries be received.

On motion of Hon. A. D. Sims,

Resolved, That the stockholders present do report themselves to the secretaries of this body, and that the chairman call on those from the town of Wilmington and county of Columbus, N.C., and the districts of Marion, Darlington and Sumter, S. C., so to report themselves. Whereupon the stockholders present recorded their names.

On motion of G. J. McRae, Esq.,

Resolved, That a committee consisting of one each from the town of Wilmington and Columbus county in N. C., and the districts of Marion, Darlington and Sumter, in S. C., be appointed to ascertain and report the amount of stock represented at this meeting, and to verify proxies.

Under the resolution, the chair appointed Messrs. Alexander McRae, Alfred Smith, S. F. Gibson, A. D. Sims and Wm. Harris, who reported that 788 shares were represented in person, and 1712 by proxy, making in all 2500 shares represented.

On motion,

Resolved, That a committee of two from each section represented at this meeting, be appointed to nominate a president and directors.

The chairman appointed Messrs. W. A. Wright, H. L. Holmes, Absalom Powell, Alfred Smith, W. W. Harllee, W. W. Durant, J. S. Gibson, Wm. H. Evans, W. Harris and J. E. Witherspoon.

On motion of H. Nutt, Esq.,

Resolved, That the subscribers for stock in this company shall not be called on for payment in larger sums than 5 per cent. on the amount subscribed, nor at shorter intervals than three months; the second instalment to be called for in three months after the commencement of the work.

On motion of Gen. Harllee,

Resolved, That in all contracts for labor or materials to be used in the construction of the road, preference shall be given to the stockholders.

On motion of Gen. McRae,

Resolved, That when it shall be deemed advisable by the board of directors to put the road under contract that it shall be commenced at both ends, and that the expenditures at each end shall be in proportion to the amount subscribed in each State.

The meeting then adjourned until 9 o'clock A.M. to-morrow.

THURSDAY, 9 o'clock A. M.

The meeting was called to order by the chairman, and the proceedings of yesterday read and approved.

On motion of J. Eli Gregg, Esq.,

Resolved, That a committee of seven be appointed by the chair to report what officers should be created by the company, and the salary to be allowed each. The chairman appointed Messrs. J. Eli Gregg, Alexander McRae, E. A. Lan, J. E. Witherspoon, H. Nutt, A. L. Scarborough and J. Maultsby to compose that committee, who recommended the establishment of the following officers with the salaries respectively attached.

A president, with a salary of $2500 per annum.

A general Agent, $1500,

A secretary and treasurer, (the duties of both to be discharged by the same person,) $1500.

A chief engineer, $2500.

A principal assistant, do., $1500.

The committee further recommended that the time from which the services and salaries of these officers shall commence, shall be fixed by the president and directors.

The report was unanimously adopted.

On motion of Hon. A. D Sims.

Resolved, That until the completion of the road, or until otherwise ordered, the necessary travelling expenses of the directors attending any meeting of the directory on business of the company, shall be paid by the company.

The committee appointed to nominate a president and directors of the Wilmington and Manchester railroad company recommended the election of the following officers.

FOR PRESIDENT.

Gov. E. B. Dudley, of Wilmington.

FOR DIRECTORS.

Henry Nutt, D. Fulton, John McRae, Sr., of Wilmington; J. Maultsby, of Columbus county; J. Eli Gress, A. L. Scarborough, of Marion, C. H.; G. W. Dargan, J. S. Gibson, of Darlington, S. C.: J. J. Moore, R. B. Muldrow, of Sumter, C. H.

The report of the committee was unanimously adopted, and the above named gentlemen declared duly elected.

On motion of W. A. Wright, Esq.,

Resolved, That a committee of three be appointed to draft bye-laws for this company, and that they make a report to the next general meeting of the stockholders. Under this resolution, Messrs. W. A. Wright, H. L. Homes and Alexander McRae were appointed.

On motion of A. J. De Rossett, Esq.,

Resolved, That the next annual meeting of this company be held at Darlington C.H. South Carolina, on the first Thursday after the third Monday in June, 1848.

On motion of C. D. Evans, Esq.,

Resolved, That the proceedings of this meeting be published in the Charleston, Wilmington and Sumter papers, and that 300 copies be printed in pamphlet form for distribution among the stockholders.

On motion of J. E. Witherspoon, Esq.,

Resolved, That it be recommended to the board of directors to appoint agents to open books, and solicit subscriptions for stock, in the districts of Williamsburg and Henry S. C. and for the counties of Brunswick and Robeson N. C. and in the city of Charleston.

On motion of Gen. Harllee,

Resolved, That the amount subscribed and paid for the preliminary survey of the routes shall be received in part payment of their stock by the persons who may have respectively contributed to the survey.

On motion of Hon. A. D. Sims,

Resolved, That the thanks of this meeting be and the same are hereby returned to the chairman and secretaries for the courteous and efficient manner in which they have respectively performed their duties.

Adjourned sine die.

WM. HAINSWORTH, Chairman.
W. H. WINGATE, } Secretaries.
W. B. BOYLSTON, }

MEETING OF DIRECTORS.

At the first meeting of the board of directors of the Wilmington and Manchester railroad company, held at Marion Court House, on Thursday, the 24th June, 1847, the following persons were present:

E B. Dudley, president; H Nutt, D. Fulton, Josiah Maultsby, J. Eli Gregg, A. L. Scarborough and J. S. Gibson, Directors.

Resolved, That the secretary and treasurer's bond shall be given for twenty thousand dollars, with security approved by this board.

Resolved, That William H. Wingate be, and is hereby appointed secretary and treasurer of this company, from and after the last Wednesday of July next.

Resolved, That John C. MacRae be, and is hereby appointed general superintendent of this company.

Resolved, That the books of subscriptions to the capital stock of this company be reopened, under the direction of each of the directors, and also

At Lumberton, under the direction of Dr. McQueen, L. B. Williams and J. Lee.

In Williamsburg district, under the direction of Solomon Coward,

In Darlington district, under the direction of J. M. Timmons.

In Sumter district, under the direction of Col. Lacoster, Captain Harriss and William Hainsworth.

In Brunswick county, under the direction of Duncan Moore, Wm. B. Robinson and Frederick Hudler.

In Charleston, under the direction of T. Harllee, W. C. Duke and E. L. Adams.

At Fair Bluff, under the direction of Absolom Powell and Augustus Smith.

And at such other places as the president and general superintendent shall designate and direct, and under such terms and conditions as they may think best.

The meeting adjourned to meet in Wilmington, on the last day of July next.

Richmond, Fredericksburg, and Potomac Railroad.

FOTRTEENTH ANNUAL REPORT.

We have recently received the 14th annual report of this company, which shows it in a very prosperous condition. It is not as full in its details as we should like to see it, as we hold it to be due to the railroad interest from every road in operation, to publish such details as may be calculated to throw light in the way of others, upon the subject. There is too often a habit—we will not say a disposition—to withhold useful facts, the result of experience on every well managed road; and we shall be pleased to see the habit changed, for one of a greater detail.

We notice a change in the president of this road, and we hope it may promote the interest of the company—but he must be an able, and an experienced man, who promises to do it, and fulfils his engagement.

The meeting was organized at half past 12 o'clock, by calling JAMES LYONS, Esq. to the Chair, and the appointment of C. W. MACMURDO as Secretary.

The Chair appointed Messrs. Wm. H. Macfarland, Conway Robinson and Holden Rhodes a committee to examine such powers as may have been given by Stockholders to represent them.

The committee, after examining the proxies, made a report, which was approved by the meeting, and the proxies appearing by the report of the committee to be properly authorized, were empowered to vote as such.

It appeared that the whole number of votes which could be given was 2276 votes, of which were present the Board of Public Works by their proxy, James Lyons, Esq., entitled to 554 votes, and individual Stockholders entitled to 1476 votes, making in all 2030 votes present.

The President and Directors made the following

ANNUAL REPORT.

The Board of Directors submit herewith the usual tabular statements, showing the condition of the Company on the 31st of March last, and detailed statements of the business of the past year.

It will be seen from them, that the income of the Company was $206,858 52 for the year ending 31st of March last, being an increase of $7,924 52 on that of the previous year, and the whole current expenses of the Company were $86,742 53, leaving a nett profit on the business of the year of $120,115 99.

The amount paid on account of interest on loans and new stock was $34,218 94, which, deducted from the amount of profit above stated, leaves a balance of $85,897 05, out of which the Board declared, in November last, a dividend of 3½ per cent., and on the first instant, a like dividend of 3½ per cent., leaving a balance (to be passed to the credit of profit and loss) of $34,797 05 on the operations of the year. The nett profit above mentioned would have justified a larger dividend than that which has been made, but the stock of materials on hand had been reduced within the past year, in amount, about $12,000—and the Board deem it the true policy of the Company to make no dividend, which there is not an almost certain prospect of being steadily continued. This principle is adhered to, in their opinion, by semi-annual dividends, for the present, of 3½ per cent. only. They trust, however, that the period is not far distant, when they can increase them without any risk of retrograding from the point which they may attain. In the meanwhile the situation of the company, in the opinion of the Board, abundantly justifies the issue to the stockholders of certificates of debt, convertible into stock, for a portion of the amount standing to the credit of profit and loss, under the authority given at the annual meeting of the stockholders in May, 1845. This they have directed to be done, to the extent of ten per cent. on the old stock, and the first ten dollars per share of the new stock.

The Board regret that the combination between the Baltimore Steam Packet Company and James River boats, adverted to in the last report to the stockholders, still continues. In an examination before a joint committee of the Legislature, during the past winter, it was admitted by the James River boats that they had received from the Baltimore Steam Packet Company, during the past summer, a bounty of seventy-five cents per passenger, on each passenger conveyed between Richmond and Norfolk and Old Point Comfort, in addition to their regular fare on James River, and that this bounty on local passengers, in addition to the increased proportion received by them on passengers between Richmond and Petersburg, and Baltimore, beyond their regular fare, was equivalent to an advantage of from ten to twelve thousand dollars per annum to the James River boats. It is understood that even greater advantages have been allowed to the river boats by the bay company. It seems evident, under these circumstances, with such efforts made by a foreign incorporated company to divert the travel from the railroad line north of Petersburg, that the measures which were adopted by the Board of Directors of this company, and which were approved by the stockholders at their meeting in July last, were indispensable to its protection.

Application having been made to this company, since the last meeting of stockholders by the proprietors of Morse's patent for liberty to construct a telegraph line along the line of the railroad, the attention of the Board of Directors has been much drawn to the subject. Had the Board of Public Works deemed it judicious to take an interest on the part of the state in the telegraph, the Board of Directors of this company would, in a spirit of courtesy towards the Board, have granted the right of way to the telegraph company, subject to revocation on twelve months' notice. But they are satisfied that serious objections apply to such grant of the right of way. There is, in the opinion of the Board of Directors, no reason to doubt, that, ere long, other plans of telegraph will be introduced, equal and perhaps superior to that of Professor Morse. Had the right of way been given to the proprietors or purchasers of Morse's patent, the Board could not consistently have refused it to the owners or purchasers of other plans of telegraph, and the line of railroad might have become encumbered with the posts and wires of several lines of telegraph, and the danger of accidents from the falling of the posts and wires, and the entanglement of locomotives and cars in them, have become a serious one. On the other hand, the company, by declining a right of way to any telegraph company, but retaining to itself the benefits of its line and its police, so invaluaable to a perfect telegraph, will, it is believed, ere long, be enabled to derive a handsome revenue from constructing and keeping in order on its road, a line of posts with as many wires as may be required for the most complete working of either one or more telegraphs; the wires to be worked by the patentees (or their assigns) of such plans as may be adopted, and the railroad company to share in the profits of the several telegraphs, in proportions to be agreed on. The Board of Directors are inclined to think, that on this, or some similar plan, the great advantages possessed by lines of railroad, for the construction and maintenance of telegraph lines, will be made available for their benefit, and that of the public. In this connexion they beg leave to refer to an accompanying editorial article, [marked A,] from the Railroad Journal of 10th April last, which seems to them to present some views entitled to much consideration.

Mr. Moncure Robinson, the late president of the company, having expressed a wish to retire. At a meeting of the Board of Direct-

ors, on the 2d of December, his resignation was accepted, and Mr. Edwin Robinson appointed the president of the company in his place. The letter of Mr. Moncure Robinson, communicating his wish to retire from the office of president, and the report of the committee to whom the same was referred, [marked B,] are herewith communicated for the information of the stockholders.

Signed by direction and on behalf of the Board, ED. ROBINSON, *President.*

Statement of the affairs of the Richmond, Fredericksburg, and Potomac Railroad Company from the commencement of the work to March 31, 1847.

Cost of Road and Property.

From Richmond to Acquia Creek	$1,459,334 81	
		$1,459,334 81

Debts due to the Company.

By individuals on new stock	$99,212 24	
By bills receivable	45,321 07	
By post-office department and others in open account	41,254 04	
By suspended debt	13,589 22	
		$199,376 57

Investments.

Virginia six per cent. stock	50 00	
Stock purchase	19,826 98	
Stock Washington and Fredericksburg steamboat company	23,000 00	
		$42,876 98
Cash on hand 31st March, 1847		39,968 03
		$1,741,556 39

Capital Stock.

Subscribed by the state 2,752 shares	$275,200 00	
Subscribed by individuals 4,248 shares	424,800 00	
7,000 shares old,		
Subscr'b'd by individuals 3,000 shares new	300,000 00	
		$1,000,000 00

Debts due by the Company of a permanent nature, and the interest payable semi-annually, viz:

Bonds due in London in 1860, £67,500 sterling, proceeds	$324,005 61	
Bonds due in Philadelphia, 1851, and convertible	30,000 00	
Bonds due in Philadelphia, 1850, and convertible	60,000 00	
Certificates of debt issued for dividends, and due in 1869	146,000 00	
		$560,005 61

Debts due by Bond and Open Account.

Bills payable	$2,583 18	
Louisa railroad comp'y	23,995 42	
Other debts due in open account	7,704 50	
Unpaid dividends	3,159 35	
		$37,412 45

Profit and Loss.

Receipts from transportation since the commencement	$1,766,924 21	
Receipts from rents of real estate since the commencement	4,224 03	
	$1,771,148 24	
Off expenses of transportation and interest, and interest on new stock and certificates of debt since the commencement	1,314,597 91	
	456,550 33	
Off dividends since the commencement	312,412 00	
		144,138 33
		$1,741,556 39

Richmond, 31st March, 1847.

C. W. MACMURDO, *Treasurer.*

Statement of receipts and disbursements within the year ending 31st March, 1847.

Receipts.

Cash on hand 31st March, 1846	$19,322 62	
Virginia six per cent. stock—received this amount	3,542 82	
Capital stock—received of the stockholders	20,231 56	
Washington and Fredericksburg steamboat stock — received this amount	500 00	
Dividends unpaid—this amount	2,327 75	
Rents of real estate — received this amount	392 00	
Transportation—receipts from transportation	206,466 52	

Disbursements.

Cost of road and property—increased this amount	$3,615 74	
Stock purchase—invested this sum	470 07	
Debts due to the company — increased this amount	21,694 50	
Potomac road bonds—paid off in full	200 00	
Debts due by the company—paid this amount,	15,056 66	
Transportation—expenses of transportation	86,742 53	
Interest—paid this am't	17,017 69	
Interest on new stock—paid this amount	9,543 07	
Interest on certificates of debt—paid this am't	7,659 18	
Dividends — paid this amount	50,816 80	
Cash — on hand 31st March, 1847	39,968 03	
	$252,783 27	$252,783 27

Richmond, March 31st, 1847.

C. W. MACMURDO, *Treasurer.*

DETAILED STATEMENT,

Showing the income which accrued to the Richmond, Fredericksburg, and Potomac Railroad Company, from 1st of April, 1846, to 1st of April, 1847.

From Transportation.	Long Travel.	Local Travel.	Trans of the Mail.	For Freight.	Total.
April, 1846,	$7,855 53	$3,049 83	$1,752 84	$4,609 20	$17,267 40
May, "	9,482 91	3,554 94	1,752 84	4,632 18	19,422 87
June, "	6,631 67	3,316 07	1,752 84	2,736 56	14,437 14
July, "	6,475 91	4,226 69	1,752 84	2,935 47	15,390 21
August, "	6,734 42	4,633 08	1,752 84	3,888 19	17,008 53
September, "	8,266 17	4,313 92	1,752 84	3,251 62	17,585 55
October, "	8,148 68	4,080 42	1,752 84	4,105 09	18,087 03
November, "	6,579 36	2,788 83	1,752 84	4,550 13	15,671 16
December, "	7,629 83	4,531 38	1,752 84	3,263 85	17,177 90
January, 1847,	7,835 56	4,328 94	1,752 84	2,184 06	16,101 40
February, "	8,790 22	2,663 33	1,752 84	4,677 75	17,884 14
March, "	11,531 16	2,977 92	1,752 84	4,171 27	20,433 19
	95,962 72	44,464 35	21,034 08	45,005 37	206,466 52

Total as above		$206,466 52
Rents of real estate, received during the year		392 00
Income for the year ending 1st April, '47,		$206,858 52
Deduct current expenses for year ending 1st April, 1847		86,742 53
Nett revenue, after payment of current expenses		$120,115 99

DETAILED STATEMENT,

Showing the current expenses from 1st April, 1846, to 1st April, 1847, paid out of the income of the Richmond, Fredericksburg, and Potomac Railroad Company.

Current expenses for the year ending 31st March, 1847.	1st April to 1st October, 1846.	1st October, 1846, to 1st April, 1847.	Total for twelve months.
Officers' salaries, embracing the president, superintendent, treasurer, and assistant treasurer	$4,100 00	$4,100 00	$8,200 00
Office expenses, embracing printing, advertising, postage, newspapers, stationery, etc.	278 14	305 95	584 09
Depot expenses, embracing compensation of agts, repairs, water rent in Richm'd, and hands at country depots	6,016 38	5,526 85	11,543 23
Repairs of road, embracing timber, iron, compensation of managers and overseers, hire and support of hands,	10,890 39	13,234 65	24,125 04
Train expenses, embracing compensation and expenses of captains and engine drivers, and cost of wood and oil	8,863 73	11,188 41	20,052 14
Repairs of engines, cars, etc., embracing compensation of foreman of shops, workmen, and materials used in repairs, etc.	13,137 86	7,289 22	20,427 08
Current contingent expenses	387 67	423 28	810 95
Omnibus account,	500 00	500 00	1,000 00
	$14,174 17	$42,568 36	$86,749 53

Annual Reports of the New York Railroads.

SARATOGA AND SCHENECTADY RAILROAD COMPANY.

Hon. N. S. BENTON, *Secretary of State.*

Sir—In compliance with a resolution of the Assembly passed February 2d, 1843, the Saratoga and Schenectady Railroad Company make their annual report to you as follows:

The Saratoga and Schenectady railroad, extending from the village of Saratoga Springs to the city of Schenectady, is 22 miles long.

The cost of construction is	$300,000 00

The receipts of the company from January 1st, 1846, to Dec. 31st, 1846, both days included, are

From passengers, on 17,150 through	$18,699 99
" " 18,827 way	6,750 01
From freight	4,668 74

The expenditures of the company for the same period are,

For repairing and running the road	$26,358 41
For dividend in January, 1846	8,000 00
" December	9,000 00
The number of locomotives is	3
" passenger cars	4
" freight cars	10
" machine shops	1

The average number of men in employment of company is 26
The number of miles run by passenger trains (freight is run in same train with passengers) is 24,455

L. R. SARGENT, Sup't.

SCHENECTADY AND TROY RAILROAD COMPANY.

In compliance with a resolution of the Assembly passed February 2, 1843, the Schenectady and Troy railroad company submit the following report for the year 1846:

Length of road in operation, 20½ miles.

Cost of construction to January 1, 1846	$641,540 02
Expended for construction in 1846	2,007 54

The receipts of the road from January 1st, 1846, to December 31st, 1846, both days included, are

From passengers, 57,793 through	$27,997 96
" 4,996 way	1,490 19
From freight	6,720 88
From mail and all other sources	570 00

The expenditures for the same period are,

For repairing and running the road	$31,545 30
Number of locomotives	3
" passenger cars	7
" freight cars	19
" other cars	24
" machine shops	1
Average number of men per day for the year	25
Number of miles run by passenger trains	51,253
Number of miles run by freight trains	2,460

Dividends, none. W. E. HALL.
Treasurer and Accountant.

RENSSELAER AND SARATOGA RAILROAD COMPANY.

HON. N. S. BENTON, *Secretary of State.*

In compliance with a resolution of the Assembly, passed February 2d, 1843, the Renssalaer and Saratoga railroad company make their annual report to you as follows:

The Renssalear and Saratoga railroad, extending from the city of Troy to the Village of Ballston Spa, is 25 miles long.

The cost of construction is	$475,801 10

The receipts of the road from January 1st, 1846, to December 31st, 1846, both days included, are

From passengers, on 18,477 through	$18,856 63
" " 33,920 way	13,510 03
From freight	8,183 61
From mail	524 55
From bridge tolls	9,210 85
From other sources	248 40

The expenditures of the company for same period are,

For repairing and running the road	$38,639 48
For expenses toll bridges	2,829 75
For dividend	9,000 00
The number of locomotive engines is	2
" passenger cars, 8 wheels	2
" " " 4 "	13
" freight cars 8 "	2
" " 4 "	11
Average number of men in the employ of the company is	32
Number of miles run by engines with passenger trains	28,426
Do. do. horses do.	8,585

Freight is taken in same train with passengers.

L. R. SARGENT, Sup't.

LONG ISLAND RAILROAD COMPANY.

In compliance with the 37th section of the act of incorporation, passed 24th April, 1834, and certain resolutions of the Assembly, adopted the 2d February, 1843, the Long Island railroad company submit the following report for the year ending the 31st December, 1846.

Length of road (including the Brooklyn and Jamaica road of 11 miles under lease to this company) 96 miles.

Length of Hemsted branch road, 2½ miles.

Cost of construction	$1,759,502 68
Income from thro' passengers	45,406 98
" local "	96,673 18
	142,080 16
" freight	24,974 96
" all other sources, including ferry across Long Island sound, & other steamers	128,672 73
Total receipts	$295,727 85
Expenses for repairs of road	23,336 55
Expenses for running of the road ferry and other steamers, etc	328,168 29
	351,504 84
Paid on account of construction during the 1846	6,455 90
Number of through passengers	22,921
" way or local do	165,550
Amount of dividends	none.
Number of locomotives owned by company	15
" passenger cars "	22
" mail " "	2
" baggage " "	10
" freight " "	120
" machine and smith shops	3
" horses "	15
Average number of men employed by the co.	220
Number of miles run by passenger trains	156,000
" " freight "	127,000

DAVID S. IVES, Secretary.

Institution of Mechanical Engineers at Birmingham.

Continued from page 422.

May 18.—Mr. J. E. M'CONNELL in the Chair.

"*On the use of the Fan-blast for manufacturing purposes.*" By Mr. BUCKLE, the following papers were read:—

1. This paper described a series of experiments on the fan-blast, as applied to manufacturing purposes. They were made for the purpose of guiding the construction of the fan, so that the greatest quantity of air could be accumulated with the least possible expenditure of power. The original application of the fan was for the purpose of separating and dressing seeds, the speed and density of the air being limited to manual power. But since their application to smitheries and foundries, steam and other motive power have been used, their speed so increased that the density of the air ranges from 3 oz. to 12 oz. per square inch. Various forms of fans have been made, but the one generally preferred is called an eccentric, with three or six blades or arms radiating from the centre. This indispensable machine is one that has abridged much time and labor; the uniform stream of air admits of no comparison with the puffing blasts of the bellows or cylinder. The smith can heat his work with precision, proportion the size of his nozzle tuyeres to suit his work, without deteriorating the intensity of the blast, and in some instances it enables him to heat one piece of work while shaping another, the pressure of the blast ranging from 4 oz. to 5 oz. per square inch, with nozzle tuyeres 1¼ inch diameter; but in a well-regulated smithy, the nozzle is fitted with nose-pipes as ferrules, varying from 1 to 3 in. diameter, to suit the quantity of blast required. An eccentric fan 4 feet diameter, the blades of which are 10 inches wide by 14 inches long, and running 870 revolutions per minute, will supply air at a density of 4 oz. per square inch, to 40 tuyeres of 1⅛ inch diameter each, without any falling off in density. In the first six experiments no discharge of air takes place, the velocity of the fan merely keeping the air at a fixed density or pressure per square inch due to that velocity. The remaining 26 experiments show the fan discharging air. An inspection of the table will show that, under various conditions of velocity of the tips of the fan, that density of the air, and theoretical quantity of the air discharged, varies, but not in a direct ratio. The best results are obtained when the velocity of the tips of vanes coincide with the velocity, and 9-10ths of the velocity a body would acquire by falling freely the height of a homogenous column of air due to its density. This is what we have called the theoretical velocity; or, in other words, the greatest quantity of air is discharged by the fan with the least expenditure of power when the tips of the vanes move at these velocities.

In a recent set of experiments, the inlet openings in the sides of the fan-chests were contracted to 12 inches, and 6 inches diameter—the original diameter being 17½ inches. The results obtained were, that with the 12 inch openings, the power expended was 2½ to 1 compared to the openings of 17½ inches, the velocity of fan, the density of air, and the cubic discharged being the same. With the 6 inch opening the same results followed as with the 12 inch, only the density of air decreased one-quarter. These experiments show that the inlet openings must be of sufficient size, that the air may have a free and uninterrupted action in its passage to the blades; for if we at all impede this action, we do so at the expense of power. Here follows a copy of the tables of 32 experiments, after which the paper gives the dimensions of fan employed in these experiments—namely, 3 ft. 10⅞ in. diameter; width of the vane 10¾ inches; and the length 14 inches. The fan is eccentric 17 16th inches; the vanes are five in number, and are placed at an angle of 6° to the plane of the diameter. The inlet openings on the side of the fan-chest are 17½ inches diameter. The outlet opening or discharge passage is 12 inches wide and 12 inches deep; the space between the tips of the blades and the chest increasing from two-eighths of an inch on the exit pipe, to 3½ inches at the bottom, in a perpendicular line with the centre.

Mr. Buckle said, that he had found that the area of the discharge and density of the air corresponded very nearly. His object had been to show the quantity of the air discharged at a certain density, and the power it required to effect that result.

2, Another paper on the same subject, from Mr. JONES, of the Bridgewater Foundry, Bridgewater, was also read.

Mr. JONES observes—"There is, perhaps, no point upon which mechanics have had a greater variety of opinion than that of the application of the fan for manufacturing and other purposes; nor is there any other subject which has caused more disappointment; and I am decidedly of opinion that this has been principally occasioned by constructing the air passages too small in the fans, as well as the passages leading to the tuyeres. Facts are always better than opinions; and in offering the following statement, I merely give the result of six months' constant work. Two points of importance in the construction of fans are, an exact balance of the fan upon the axle, and a careful and judicious arrangement for getting up the speed so as to avoid

either tight straps, or any slipping up on the pullleys. With this I forward you a drawing of the fans I have constructed. You will perceive that I have the openings unusually large, but the results have fully justified the proportions. With these two fans we have been melting 50 to 60 tons of iron per day, at the rate of 5 to 6 tons per hour, with a consumption of coke of 208 lb. to the ton of iron; in addition to which there are upwards of 50 smiths' fires blown at the same time. The power required is about eight horses, the motion being taken from a 12 horse power engine by means of a 7 in. gutta percha belt, the shaft running at 73 revolutions per minute: the speed of the fan is about 750. They are driven by a pulley on each end of the spindle. This I think much better than a single strap. The openings at the side of the fans are 2 ft. 4 in. in diameter, and the outlets are 24 inches by 12 inches. The passage from the fan is 2′ 9″ by 1′ 9″, leading to a reservoir under the cupola 18′ 0″ by 7′ 0″ by 4′ 0″ deep, from which we have two tuyeres 6 inches in diameter. The pressure of blast is about 5¼ oz. per inch. The only thing to which I wish to call your attention, is the increased size of the air passages; and when we consider the large quantity of iron melted, and the small proportion of coak used, the result is very satisfactory."

Mr. Buckle remarked, that his paper had been drawn up for the purpose of recording a course of experiments made during a series of years at his leisure, and which had been executed with the utmost care. The results were important to those who were about to adopt the fan, as teaching them that its size must be a matter of guess-work. When he himself had a fan made, all the advice he could obtain was, "Make it big enough." The parties who said so knew nothing about it. Had he been then in possession of the results of his subsequent experiments, he should have had his fan made only half its present size. He now found that all required was, that the tips of the fan should revolve with 9-10ths of the theoretical velocity. In driving the fan at that speed they would obtain the largest portion of blast at the least expenditure of power. By driving them at a greater velocity, the power was absorbed without producing a greater quantity of blast.

Mr. Cowper wished to know if the horse-power mentioned by Mr. Jones was indicated or commercial horse-power? Was it the same as that meant by Mr. Buckle?—Mr. Buckle said, he had ascertained the power by a dynanometer, having a spiral spring and a piston attached. Having ascertained the amount indicated by the engine when disconnected with the fan, he had deducted that amount from the amount shown in every experiment. The engine was nominally a 14 horse power engine. He had found that by a succession of fans, the first transmitting the blast to the second, and so on, he obtained by the third or fourth a pressure of 2½ lbs. on the square inch.

Alderman Geach remarked, that this plan was in use at a furnace fitted up some three or four months since in Derbyshire, where they proved that they could obtain a pressure of 2½ lbs. on the square inch, and that they could make better iron, and in a larger quantity than by the old plan. Mr. Buckle had not been previously aware that the plan had been tried, but he had ascertained that uniformity of the discharge was greater than that of the blowing cylinder, and the quality of the iron would be better.

Mr. Henderson said, that in the works in Scotland with which he was connected, they had a fan so badly constructed that they were about to have it altered, which, nevertheless, turned out 220 to 230 tons of casting per week. They had found that they could get something like double indicated power out of the ordinary Fairbairn's engine, compared with what it was sold for. He should like to know the proper form of the fan, the proper length of pipe, and the size of the pipe which conducted the blast from the fan to the place where they wished to use it. In Scotland they were working a shaft 200 feet long; and he should like to know whether they could effect their object by laying down underground piping instead of having a shaft to conduct the power to near the place where they wished to use it. They had enlarged the tuyere pipe, having ascertained that, in melting iron, the density of the air was not so important as the quantity, and that it was necessary that the air should be admitted in large quantities.—Alderman Geach knew of one furnace where the cupola was 150 feet from the blast.—Mr. H. Smith stated some experiments, which went to show, as the chairman remarked, that, putting the case in an extreme point of view, the further the blast was from the fire the better. The discussion was then adjourned, to afford an opportunity for further experiments.

3. "*Heated Air.*" The next paper was from Mr. Wilkinson, who, the Chairman observed, had been so bold as to try a totally new plan for economising fuel, by introducing *heated air into the boiler of a steam-engine*, among the steam, by which the inventor estimated that he effected a saving of 20 to 25 per cent. in fuel. They had had steam and heated air separately, but this was the first attempt to combine them. The following are extracts from the paper:—

"It is an unalterable law of Nature that to produce a given quantity of steam, a given quantity of heat must be imparted to the water, and that in proportion to the steam required. Therefore, under the most advantageous circumstances, to produce an effect, a certain amount of combustion must necessarily be expended. Now I find, from repeated experiments, that water alone is not the most economic agent to work with; and, by way of elucidating this fact, I will explain one, and only one, though not the most successful of my experiments, and this was made on a six horse power high pressure engine, working in a manufactory of Mr. J. Burman, Cumberland-street, Curtain road, London. The principle consists in the injection of a stream of air, heated to the high temperature of 800, into the steam in the boiler—by which means the temperature, and consequently, the expansive force of the steam was increased. To effect this object, an iron pipe or tube was bent in a serpentine form, so as to present a great extent of surface, and placed under the boiler, there to receive a red heat from the glowing part of the fire, after it had passed the bridge on its course to the flue. One end of this rarefying chamber was connected with an injecting air-pump, proportioned to the size of the cylinder of the engine. The other end was inserted by a continuation of the tube above the surface of the water into the steam in the boiler. The whole capacity of the tube was greater than the volume of compressed air which it recived from each stroke of the piston of the pump, so that the air did not enter the boiler until it had acquired the full heat or nearly so of the red hot tube through which it passed. At every stroke of the piston the same quantity of cold air was injected into the tube. That part of the air which was next to the pump was forced into a hotter place, and the air which previously occupied that hotter place, was forced on to a still hotter one, and so on, until the furthermost and hottest of all was discharged into the steam in the boiler. The pressure of air in the tube, strictly speaking, exceeded that of the steam in the boiler, for it was an excessive pressure that overcame the resistance in the boiler. That, at the commencement of each stroke the air in the cylinder of the pump was in equilibrium with the external air, and only opposed a resistance as it became compressed, and gradually increased its compressed force until it arrived at its maximum, which was the point of equilibrium with the compressed air in the hot tube and the resistance of the steam. Taking all things into account, the whole amount of power expended in working the pump was about 5 per cent. or 120th of the force which acted on the steam cylinder of the engine, and the result of the experiment showed that the application of the heated air caused a reduction in the quantity of coal consumed of from 25 to 30 per cent., and this was continued for several weeks, the engine of course working at its usual pressure."

The Chairman had had his attention called to the subject by Mr. R. Stephenson, who wished him to try it in the locomotive on the line, but he had preferred to wait till he had ascertained whether the principle was economical, and whether the results could be depended on with a stationary engine.—Mr. Cowper had seen the invention tried, and observed that the engine worked slower with than without it; but, as the inventor considered the engine out of order, he would not express any opinion upon the value of the invention.

AITKEN'S IMPROVEMENTS ON THE STEAM ENGINE.

Mr. J. Aitken, of Newman street, has taken out letters patent for an important improvement in the steam engine, by constructing what he terms an atmospheric cylinder placed either over the air pump, or in any other convenient situation which may be fix-

ed upon, with the view of easing the load on the latter, which is very serious in all engines. Through this atmospheric cylinder all the condensing water passes on its way to the condenser; atmospheric pressure is thus given to the piston, and the load of the air-pump counteracted. The action of the air-pump abstracts a considerable portion of the power of every description of condensing engine during the space the load is on; but in direct action, or pumping engines particularly, where there is no fly wheel to equalize the load, the advantage of the atmospheric cylinder will be great; for steam, exual to the load of the engine, and of the air pump, must be supplied from the beginning to the end of the stroke. Supposing the air pump to be 34 inches in diameter, the pressure on the piston would be 12,700 pounds at each stroke. Mr. Aitken estimates that the use of the atmospheric cylinder will give power to that extent; and the check of the air-pump being counteracted, the engine will work more steadily, and more safely. Another advantage of this additional cylinder is, that it extracts the air from the water, on its way to the condenser, before it becomes expanded by the heat of the steam; and the lowest benefit observed from this cause, was an improved vacuum in the condenser to the extent of three-quarters of an inch of mercury. A greatly increased quantity of water may be admitted to the condenser without inconvenience to the engine, the atmospheric cylinder giving power to discharge it from the air-pump in proportion to the quantity passing through it. The principal advantages arising from the application of the new cylinder are estimated as follows—viz: 1. The steam cylinder is relieved of the load of the air-pump.—2. The vacuum of the condenser is greatly improved.—3. The movement of the fly-wheel, or the momentum of a steamboat, is rendered much more steady, on account of the resistance of the air-pump at at each revolution, being counteracted by the atmospheric cylinder.—4. In cases where the condensing water can be brought in a pipe from a height, the power of the engine may be increased in proportion.—5. It will obviate the difficulty sometimes experienced when the condenser is too hot to supply itself with water—and, 6. In marine engines, there will be great advantage from the supply of condensing water, being in exact proportion to the speed of the engine. The entire gain, upon the average, from the application of the new cylinder, is estimated at 22½ per cent.—*London Mining Journal.*

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent,*
1y Albany Iron and Nail Works,

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer,*
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

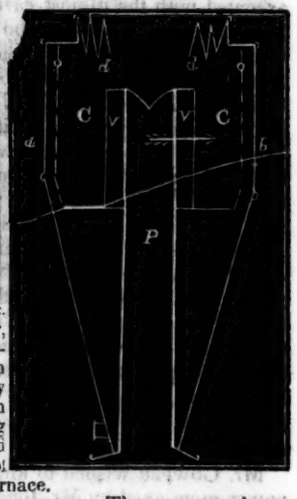
Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
ja45 Paterson, N. J., or 60 Wall street, N. York.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

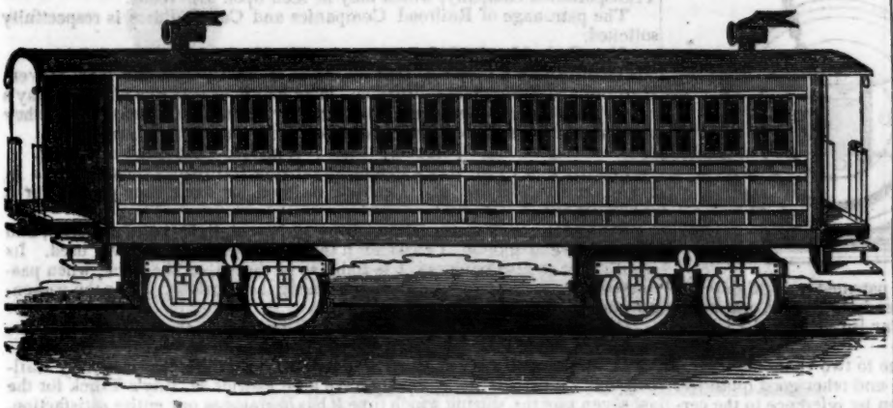
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.

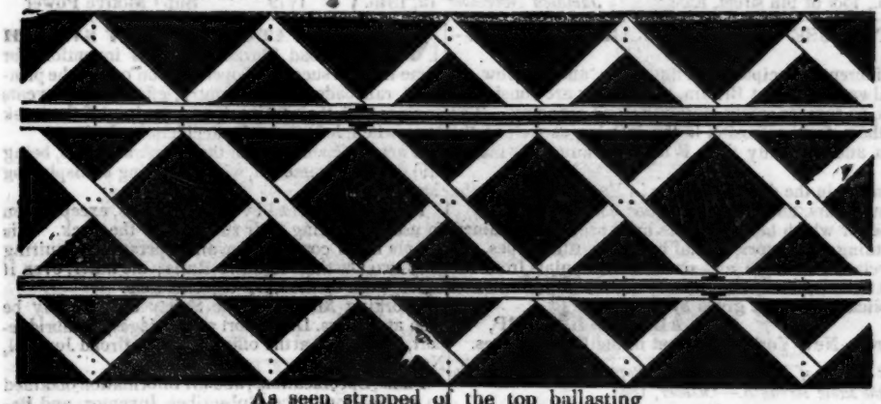


Manufacture to Order, Passenger and Freight Cars of every description; and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

RAILROAD IRON.
MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

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RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
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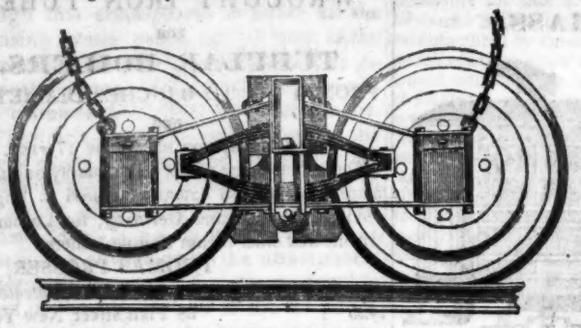
LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of trials made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	8	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¼	5	2	6¼	9	4	13½	1-2	7¼
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the busines[illegible].

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best [illegible], laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

THE SUBSCRIBERS, AGENTS FOR the sale of

Codorus, Glendon, Spring Mill and Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAILWAY IRON.—THE BEST QUALITY of English Heavy H Rails—60 lbs. to the yard—now in store, landing from the vessel, and on ship board to arrive, for sale on most favorable terms by

DAVIS, BROOKS & CO.,
Jan. 2. [1tf] 68 Broad St., New York.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

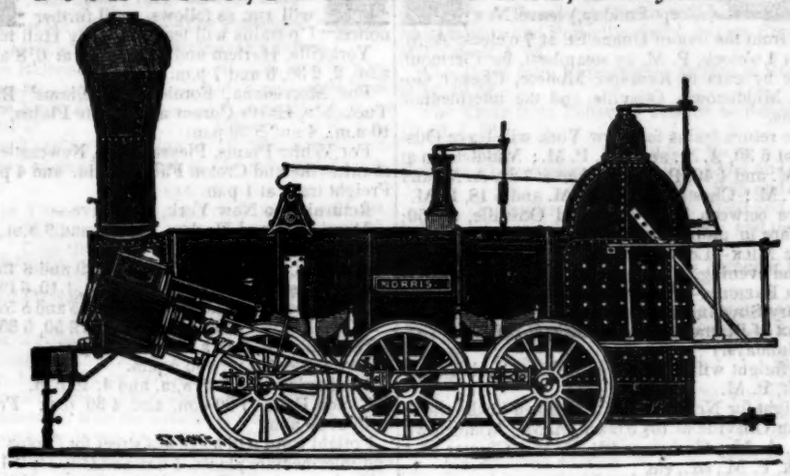
RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

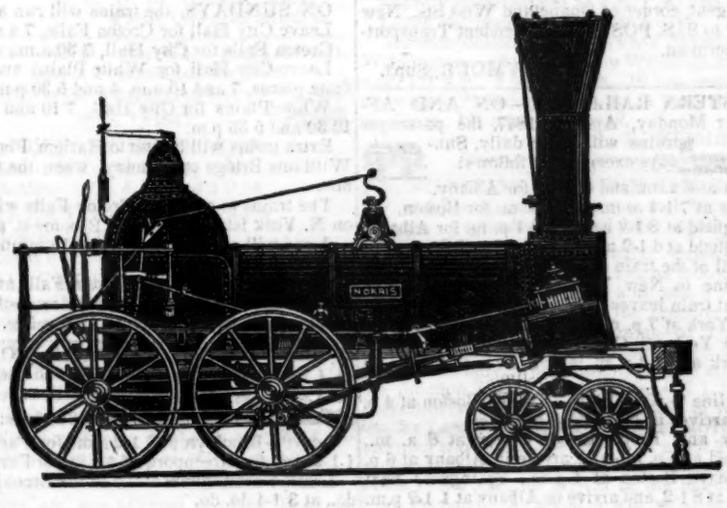
FULLER & BROWN, Agents,
No. 139 Greenwich, corner of Cedar street.
June 1, 1847. 10tf

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, *also*, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail. 46tf

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

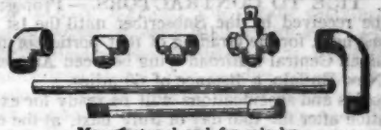
For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

TO LOCOMOTIVE AND MARINE Engine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
1y10 New York.

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
4tf Philadelphia, Pa.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

NOTICE TO CONTRACTORS.—SEALED Proposals will be received until Wednesday, July 15th, in the Borough of Harrisburg, and until Wednesday, July 22d, in the city of Pittsburg, at 10 o'clock A.M., at the Office of the Engineers, for the Grading and Masonry upon fifteen miles of the Pennsylvania Railroad, extending west from Harrisburg, and fifteen miles of said Railroad, extending east from Pittsburg. The grading will include very heavy work, and the amount of Masonry, including the Piers of Abutments of the Bridges across the Susquehannah, three-quarters of a mile in length, will be unusually large. Plans and specifications of the work can be seen at the Engineer's office in each place, for ten days previous to the time appointed for receiving the bids. Any further information can be had upon application to the Chief or Associate Engineers. S. V. MERRICK, *President.*

MICHIGAN CENTRAL RAILROAD.—NOTICE TO CONTRACTORS.—Proposals will be received by the Subscriber until the 1st of August next, for the Grading of that portion of the Michigan Central Railroad lying between Antwerp and New Buffalo, a distance of 60 miles.

Profiles and specifications will be ready for examination after the 15th day of July next, at the office of the subscriber, or that of Col. J. M. Berrien, at Kalamazoo, at which time the line will be shown to contractors. J. W. BROOKS, Supt.

Michigan Central Railroad Office,
6t26 Detroit, June 17, 1847.

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.
Albany at 7 1-4 a. m. and 5 p. m. for Boston.
Springfield at 8 1-2 a. m. and 1 p. m. for Albany.
Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.—Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.
Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.
Pleasantville, 8 15 a.m. and 5 15 p.m.
Newcastle, 8 a.m. and 5 p.m.
Mechanicsville, 7 48 a.m. and 4. 48 p.m.
Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:
Leave City Hall for Croton Falls, 7 a.m, 4 p.m.
Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c., to White Plains 50c. 25tf

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

25tf DAVID S. IVES, Sup't.

PATERSON RAILROAD Summer Arrangement.

Commencing April 20th, 1847, the cars will leave

Paterson at	New York at
8 o'clock a.m.	9½ o'clock a.m.
11½ o'clock a.m	12 1-4 o'clock p.m.
4 o'clock p.m.	5½ o'clock p.m.
On Sunday.	
8 o'clock a.m.	9½ o'clock a.m.
4 o'clock p.m.	5½ o'clock p.m.

25tf Office 75 Courtlandt St.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville.....2 00
" Columbia.....2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad.....10
Through tickets to Harrisburg or Gettysburg..3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

SUMMER ARRANGEMENT,
April 1, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 5 P.M.
Leave Great Falls at 6½ A.M.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 6·20 P.M.
Leave Haverhill at 6½ A.M. and 4½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 8½ P.M.
Leave Reading at 6 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, 11½ A.M., 2½, 5½, 7 P.M.
Leave Medford at 6½, 8 A.M., 1½, 4½, 6 P.M.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above **$50** in value, and that *personal*, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every **$500** additional value.

1y31 CHAS. MINOT, *Sup't.*

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y ..... J. W. STOWELL, Sup't

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for

1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m. on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars.....3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD—Distance 84 miles—connecting at Xinia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City. via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columdus, Delaware, and the Mansfield and Sundusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as fllows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

The 1½ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. a13y1

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35 1y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.
1y35 JOHN KING, Jr, *Agent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.

		Between Augusta and Oothcaloga and Dalton. 250 miles.	Between Charleston, Oothcaloga and Dalton. 386 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 16	$0 26
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 45	0 70
	Cotton, per 100 lbs	0 45	0 65
	Molasses, per hogshead	8 50	13 50
	" " barrel	2 00	3 25
	Salt per bushel	0 17	
	Salt per Liverpool sack		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. •44 1y

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston	$21 00
" " " Richmond	6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the *Office* is removed from New York to the FRANKLIN HOUSE, *Philadelphia*, where he will be always pleased to *meet* and *greet* them. They will not only find a pleasant *Reading Room*, with lots of *foreign* periodicals, treating of *Railroads* and *Machinery*, but they will always find *good-sized* and *airy* rooms—*clean beds*—and a *well supplied* table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor,

D. K. MINOR.

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This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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